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Dairy-Herd-Improvement Letter

ARS-44-201
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March 1968

SDHIA PARTICIPATION REPORT ^{1/}
January 1, 1968

The National Cooperative Dairy Herd Improvement Program is a composite of the Standard (including DHIR), Owner-Sampler, and Weigh-a-Day-a-Month recordkeeping plans. On January 1, 1968, the Program included 62,879 herds consisting of 3,028,267 cows on test, which is 22.4 percent of the nation's dairy cow population. These figures represent an increase of 1.3 percent of cows on test, an increase of 50,792 cows, and a decrease of 1,244 herds during the year. Table 1 presents these data and also includes 4,284 herds and 139,672 cows on other testing programs such as Vocational Agriculture, commercial, private, etc.

Each of the 50 States and Puerto Rico are represented in the total program that includes 1,318 associations and 2,304 supervisors. The participation reports for all testing programs and for the Standard, Owner-Sampler, and Weigh-a-Day-a-Month plans are shown in tables 1, 2, 3, and 4, respectively.

On January 1, 1968, 814 fewer herds and 33,010 more cows were on Standard test than in the previous year. Average

^{1/} Prepared by F. N. Dickinson, B. T. McDaniel, C. A. Rampendahl, and J. J. Corbin from data supplied by the State Extension Dairyman in Charge of DHIA Testing.

Issued May 1968

herd size was 57.8 cows, an increase of 2.1 cows per herd over the previous year. Milk production of Standard DHIA cows has increased consistently since 1956 at a rate of 259 pounds per year. Milk fat has slightly but steadily declined at an average annual rate of 0.014 percent per year since 1956. The changes in milk production and milk fat are partly a reflection of a change in breed proportions. Herd size and the percentage of milk fat agree closely with the estimates for all U.S. dairy cows.

On January 1, 1968, 296 fewer herds and 22,358 more cows were on the Owner-Sampler test than in the previous year. Average herd size was 33.7 cows. Wisconsin had 43.9 percent of the Owner-Sampler enrollment. The Weigh-a-Day-a-Month plan had 867 herds consisting of 48,853 cows. Average herd size for this plan was 56.3 cows.

Electronic data processing at State and regional DHIA centers continues to advance as shown in table 5. Electronic processing of Standard plan records (including DHIR) has reached 100 percent in 39 States. In the United States, it includes 95.2 percent of the herds and 85.4 percent of the cows on Standard DHIA. The corresponding values for records of the three plans combined are 89.9 and 84.0 percent, respectively.

In 1967, approximately 99.9 percent of the lactation records reported to USDA were centrally processed. The benefits to be derived from centrally processed DHIA herdbooks and records have been thoroughly demonstrated during the last 10 years. It is hoped that dairymen who have not converted to the improved system will do so soon.

The present status and changes since 1906 in Standard DHIA enrollment are shown in table 6. The number of cows in the program has about doubled since 1950, although the number of herds tested continues to decrease.

Table 7 is a 12-year summary of the production of Standard DHIA and all U.S. dairy cows. Table 8 shows that the proportion of cows participating in the total DHIA program increased from 9.3 percent in 1956 to 22.4 percent in 1967.

A list of the 231 counties that have 40 percent or more of their dairy cows on one or more of the recordkeeping plans is shown in table 9. Twenty percent of the counties have 25 percent or more of their dairy cattle enrolled in one or more recordkeeping plans.

On the last page is an updated list of Extension Dairymen in charge of production testing from information supplied by each State.

LACTATION RECORDS REPORTED IN 1967

In 1967, 1,851,274 Standard DHIA lactation records were reported to USDA for use in statistical summaries, genetic appraisals, and research. This is 62,300 more than were reported in 1966. Of these, 72.5 percent were reported on magnetic tape and 27.4 percent on punched cards. A very small number of records were reported on hand-coded forms. The records reported by State are summarized in table 10.

Since 1958, the number of cows enrolled in Standard DHIA has increased 36 percent, while the number of lactation records reported to the USDA has increased 135 percent. As a result, the proportion of cows on test having reported records has increased from 51 to 88 percent since 1958. This more complete reporting is attributed largely to the continued development of central processing of Standard DHIA records. A 10-year summary of the records reported since 1958 is shown in table 11.

LACTATION RECORD REJECTS

About 6.7 percent of the lactation records submitted in 1967 were rejected because the editing procedure revealed they contained invalid, conflicting, or questionable data. The U.S. Department of Agriculture was able to adjust or reconcile approximately 13,500 additional records that conflicted with previous reports or with breed association registration files.

The types and frequencies of discrepancies that were

noted in the preliminary screening of lactation records are shown in table 12. The major problem is the lack of identification on sires and dams of registered cows. In 1,800 records the breed codes of cows with registration numbers were different from those of their sires or dams. Over 800 records on registered cows had a sire number coded as grade. Attention to following the uniform eartag series numbers or to reporting all identification on registered cows will greatly reduce the number of records that are screened for such errors as those above. It will also reduce the effort made by farmers, DHIA, and Dairy Records Processing Centers to correct these mistakes. Another major problem was blanks in the records.

Reasons for rejecting records in the main USDA edit and the number of records so affected are shown in table 13. Over 100,000 records were rejected, the main problems being birth dates, invalid characters (usually alphabetics), conflicting calving dates, and sire or dam numbers. A substantial portion of the rejected records had errors in more than one field because more than 125,000 error conditions were recognized. The material in table 13 is based only on registered cows or grade cows for which sires were reported. Thus, it appears that the error rate in records identified by sire is near 10 percent, because a substantial number of lactation records continue to be reported without sire identification.

You may note that several tables show error conditions. This results because records are edited for all remaining fields after the first conflict is found. The fact that error conditions exceed the number of rejected records indicates that many records continue to have more than one error.

SIRES SUMMARIZED IN 1967

DHIA sire summaries were computed on a total of 38,103 bulls in 1967 (table 14). Of these, 31,670 represent a re-summary of bulls in USDA-DHIA master files prior to 1967. Bulls in this category were summarized in 1967 because sire

summary procedures were revised and improved that year. More than 6,000 bulls born in recent years or available in AI were summarized in the May and September runs, and the data have been distributed to the industry.

In January 1968, 6,726 bulls were summarized, primarily with data received in 1967. These summaries have been made available to the industry.

DHIA COWS INDEXED IN 1967

DHIA Cow Index evaluations on 7,211 outstanding cows—registered progeny of bulls summarized in 1967—were computed and made available to the dairy industry for consideration as dams of future herd sires.

Screening was based on the production superiority that these cows are expected to transmit to their offspring. Cows meeting either of the two minimum standards—one based strictly on milk yield and the other on a combination of milk and fat yields—were included. Cows qualifying by breed for these two standards are shown in table 15. These animals comprise approximately the highest 2 percent of the breed.

TABLE 1.--The National Cooperative Dairy Herd Improvement Program and other testing programs (January 1, 1968)

State	Counties	Asso- ciations	Super- visors	Standard		Owner-Sampler		Weigh-a-Day- a-Month		Total		Milk cows in U.S.	
				Herds	Cows	Herds	Cows	Herds	Cows	Herds	Cows	Total 1/	In all plans
				Number	Number	Number	Number	Number	Number	Number	Number	Thousands	Percent
Ala-----	50	23	24	329	32,105	6	487	13	931	348	33,523	150	22.3
Alaska---	2	1	2	5	196	4	135	--	-----	9	331	1.9	17.4
Ariz-----	5	4	10	78	14,305	20	7,003	--	-----	98	21,308	51	41.8
Ark-----	25	11	17	81	4,375	99	3,160	10	400	190	7,935	108	7.3
Calif-----	44	30	118	1,841	371,229	150	14,070	--	-----	1,991	385,299	781	49.3
Colo-----	18	15	20	231	19,269	31	1,522	--	-----	262	20,791	98	21.2
Conn-----	8	7	24	389	22,677	58	2,609	6	449	453	25,735	69	37.3
Del-----	3	3	5	81	4,236	10	253	3	56	94	4,545	16	28.4
Fla-----	32	10	12	124	21,078	4	1,980	16	4,318	144	27,376	182	15.0
Ga-----	100	31	30	378	31,118	8	562	58	6,546	444	38,226	144	26.5
Hawaii---	3	1	1	17	4,322	2	645	--	-----	19	4,967	14.4	34.5
Idaho-----	31	33	33	545	22,488	16	482	--	-----	561	22,970	156	14.7
Ill-----	83	53	81	1,364	58,034	367	11,829	209	6,941	1,940	76,804	358	21.5
Ind-----	81	59	71	1,026	43,759	306	13,956	--	-----	1,332	57,715	270	21.4
Iowa-----	97	74	109	1,687	60,756	1,369	36,402	3	45	3,059	97,203	617	15.8
Kans-----	92	57	58	792	38,162	135	4,416	20	552	947	43,130	221	19.5
Ky-----	70	36	44	524	23,497	40	1,483	39	1,508	603	26,488	380	7.0
La-----	35	19	21	86	8,356	5	301	197	13,062	288	21,719	188	11.6
Maine-----	16	13	25	394	18,782	94	3,682	--	-----	488	22,464	72	31.2
Md-----	20	17	34	650	41,714	74	3,275	--	-----	724	44,989	174	25.9
Mass-----	11	11	21	426	20,030	69	2,483	--	-----	495	22,513	74	30.4
Mich-----	79	55	107	1,618	78,058	1,424	49,095	--	-----	3,042	127,153	495	25.7
Minn-----	84	80	210	3,391	119,023	2,258	63,577	--	-----	5,649	182,600	1,094	16.7
Miss-----	51	20	26	281	21,888	5	492	22	1,327	308	23,707	222	10.7
Mo-----	75	45	46	501	26,212	181	5,859	--	-----	682	32,071	397	8.1
Mont-----	15	6	8	72	4,316	29	2,542	--	-----	101	6,858	49	14.0
Nebr-----	58	31	33	396	18,796	86	3,200	43	950	525	22,946	224	10.2
Nev-----	6	2	3	62	6,380	2	1,145	--	-----	64	7,525	13.5	55.7
N. H-----	10	9	17	256	13,014	62	2,559	6	327	324	15,900	42	37.9
N. J-----	12	9	24	393	23,992	38	3,771	--	-----	431	27,763	86	32.3
N. Mex---	13	4	6	31	6,916	4	1,773	--	-----	35	8,689	38	22.9
N. Y-----	49	49	170	3,758	186,511	2,558	94,798	--	-----	6,316	281,309	1,069	26.3
N. C-----	86	40	52	769	49,901	38	1,529	57	2,943	864	54,373	200	27.2
N. Dak---	38	13	11	144	5,902	30	760	25	642	199	7,304	173	4.2
Ohio-----	85	80	142	2,117	90,978	1,372	41,418	--	-----	3,489	132,396	498	26.6
Okla-----	52	16	20	271	17,010	57	2,996	2	70	330	20,076	159	12.6
Oreg-----	25	15	23	325	24,195	107	4,430	--	-----	432	28,625	117	2.5
Pa-----	67	61	186	4,247	178,203	1,321	39,855	--	-----	5,568	218,058	742	29.4
P. R-----	6	1	1	6	820	--	-----	18	3,534	24	4,354	---	---
R. I-----	4	2	3	46	2,230	--	-----	--	-----	46	2,230	8.8	25.3
S. C-----	36	14	25	259	26,391	2	112	8	262	269	26,765	75	35.7
S. Dak---	60	20	19	141	5,604	385	10,100	--	-----	526	15,704	210	7.5
Tenn-----	59	42	37	503	31,011	6	231	35	1,314	544	32,556	348	9.4
Tex-----	77	25	29	344	32,476	26	1,563	8	796	378	34,835	384	9.1
Utah-----	18	15	16	408	21,107	27	1,040	--	-----	435	22,147	76	29.1
Vt-----	13	28	56	734	39,121	611	26,693	1	50	1,346	65,864	216	30.5
Va-----	80	40	54	972	62,956	58	2,385	12	496	1,042	65,837	241	27.3
Wash-----	32	22	44	569	37,248	39	1,208	--	-----	608	38,456	195	19.7
W. Va-----	29	11	17	157	8,367	30	1,053	56	1,334	243	10,754	73	14.7
Wis-----	70	50	154	3,010	131,243	11,502	371,852	--	-----	14,512	503,095	1,933	26.0
Wyo-----	7	5	5	40	1,572	18	714	--	-----	58	2,286	20.5	11.2
Total or percent:													
The Natl. Coop.DHI Program 2,122													
1,318 2,304 36,869 2,131,929 25,143 847,485 867 48,853 62,879 3,028,267 13,524 22.4													
All testing programs 2/--													
----- 67,163 3,167,939 ----- 23.4													

1/ Preliminary figures for average number of milk cows on farms during year, excluding heifers not yet fresh; estimated by the Statistical Reporting Service (USDA).

2/ The following number of herds and cows are on other testing programs such as Vocational-Agriculture, commercial, private, etc., by State: Arizona, 40 herds, 8,000 cows; California, 41 herds, 4,197 cows; Colorado, 36 herds, 2,954 cows; Connecticut, 17 herds, 1,900 cows; Iowa, 300 herds, 5,000 cows; Michigan, 227 herds, 8,078 cows; New Mexico, 14 herds, 1,225 cows; North Dakota, 45 herds, 889 cows; Washington, 12 herds, 1,089 cows; Wisconsin, 3,549 herds, 106,188 cows; Wyoming, 3 herds, 152 cows. Total = 4,284 herds, 139,672 cows.

TABLE 2.--Standard DHIA recordkeeping in the United States (January 1, 1968)

State	Counties	Herds	Cows	Change from 1-1-67	Av. cows per herd	All milk cows 1/	DHIA cows as pct. of all milk cows 2/	Change from 1-1-67
	Number	Number	Number	Number	Number	Thousands	Percent	Percent
Ala-----	49	329	32,105	+1,284	97.6	150	21.4	+1.9
Alaska-----	2	5	196	+31	39.2	1.9	10.3	+2.0
Ariz-----	5	78	14,305	-2,239	183.4	51	28.0	-3.8
Ark-----	14	81	4,375	+575	54.0	108	4.1	+ .8
Calif-----	44	1,841	371,229	+8,777	201.6	781	47.5	+ .6
Colo-----	15	231	19,269	+5,016	83.4	98	19.7	+5.3
Conn-----	8	389	22,677	-1	58.3	69	32.9	+ .5
Del-----	3	81	4,236	-225	52.3	16	26.5	+ .3
Fla-----	31	124	21,078	+989	170.0	182	11.6	+ .4
Ga-----	87	378	31,118	+2	82.3	144	21.6	+ .9
Hawaii-----	1	17	4,322	-158	254.2	14.4	30.0	+ .1
Idaho-----	31	545	22,488	-8,227	41.3	156	14.4	-4.6
Ill-----	80	1,364	58,034	-3,318	42.5	358	16.2	+ .4
Ind-----	81	1,026	43,759	+617	42.7	270	16.2	+1.9
Iowa-----	96	1,687	60,756	+1,286	36.0	617	9.8	+ .7
Kans-----	90	792	38,162	+2,834	48.2	221	17.3	+1.8
Ky-----	51	524	23,497	+1,449	44.8	380	6.2	+ .6
La-----	22	86	8,356	+872	97.2	188	4.4	+ .6
Maine-----	16	394	18,782	+929	47.7	72	26.1	+2.0
Md-----	20	650	41,714	+1,592	64.2	174	24.0	+1.7
Mass-----	11	426	20,030	-1,134	47.0	74	27.1	-1.5
Mich-----	79	1,618	78,058	-3,283	48.2	495	15.8	+ .8
Minn-----	84	3,391	119,023	-3,218	35.1	1,094	10.9	+ .2
Miss-----	48	281	21,888	+3,190	77.9	222	9.9	+2.2
Mo-----	68	501	26,212	+2,201	52.3	397	6.6	+ .9
Mont-----	12	72	4,316	+938	59.9	49	8.8	+2.4
Nebr-----	55	396	18,796	+2,100	47.5	224	8.4	+1.4
Nev-----	6	62	6,380	-66	102.9	13.5	47.3	+2.3
N. H-----	10	256	13,014	+682	50.8	42	31.0	+ .9
N. J-----	12	393	23,992	-1,243	61.0	86	27.9	+1.9
N. Mex-----	9	31	6,916	+672	223.1	38	18.2	+1.8
N. Y-----	49	3,758	186,511	+4,753	49.6	1,069	17.4	+1.0
N. C-----	81	769	49,901	+2,232	64.9	200	25.0	+2.3
N. Dak-----	33	144	5,902	-198	41.0	173	3.4	+ .3
Ohio-----	84	2,117	90,978	+122	43.0	498	18.3	+ .9
Okla-----	49	271	17,010	+2,847	62.8	159	10.7	+2.3
Oreg-----	25	325	24,195	-2,105	74.4	117	20.7	- .9
Pa-----	67	4,247	178,203	-1,529	42.0	742	24.0	+ .6
P. R-----	6	6	820	-73	136.7	---	---	---
R. I-----	4	46	2,230	+38	48.5	8.8	25.3	+3.4
S. C-----	34	259	26,391	+1,511	101.9	75	35.2	+2.9
S. Dak-----	28	141	5,604	-1,046	39.7	210	2.7	- .4
Tenn-----	55	503	31,011	+582	61.7	348	8.9	+ .7
Tex-----	71	344	32,476	+3,426	94.4	384	8.5	+1.3
Utah-----	18	408	21,107	+789	51.7	76	27.8	+1.4
Vt-----	13	734	39,121	+57	53.3	216	18.1	- .1
Va-----	78	972	62,956	+3,891	64.8	241	26.1	+2.5
Wash-----	32	569	37,248	+188	65.5	195	19.1	+ .5
W. Va-----	18	157	8,367	-424	53.3	73	11.5	+ .4
Wis-----	70	3,010	131,243	+4,881	43.6	1,933	6.8	+ .4
Wyo-----	7	40	1,572	+144	39.3	20.5	7.7	+1.2
Total, average, or percent---	1,962	36,869	2,131,929	+33,010	57.8	13,524	15.8	+ .9

1/ Preliminary figures for average number of milk cows on farms during year, excluding heifers not yet fresh; estimated by the Statistical Reporting Service (USDA).

2/ Percentage of cows included in the Standard (including DHIR) recordkeeping plan.

TABLE 3.--Owner-Sampler recordkeeping in the United States (January 1, 1968)

State	Counties	Herds	Cows	Change from 1-1-67	Av. cows per herd	All milk cows 1/	O.S. cows as pct. of all milk cows 2/	Change from 1-1-67
	Number	Number	Number	Number	Number	Thousands	Percent	Percent
Ala-----	5	6	487	+187	81.2	150	0.3	+1
Alaska-----	1	4	135	-15	33.8	1.9	7.1	-.4
Ariz-----	1	20	7,003	+7,003	350.2	51	13.7	+13.7
Ark-----	25	99	3,160	+460	31.9	108	2.9	+6
Calif-----	19	150	14,070	+5,184	93.8	781	1.8	+6
Colo-----	8	31	1,522	+792	49.1	98	1.6	+9
Conn-----	8	58	2,609	-693	45.0	69	3.8	-.9
Del-----	2	10	253	+7	25.3	16	1.6	+2
Fla-----	3	4	1,980	-88	495.0	182	1.1	-.1
Ga-----	3	8	562	+177	70.3	144	.4	+1
Hawaii-----	2	2	645	+619	322.5	14.4	4.5	+4.3
Idaho-----	12	16	482	-119	30.1	156	.3	-.1
Ill-----	25	367	11,829	-1,386	32.2	358	3.3	-.1
Ind-----	17	306	13,956	-15,599	45.6	270	5.2	-4.6
Iowa-----	88	1,369	36,402	-643	26.6	617	5.9	+3
Kans-----	29	135	4,416	+440	32.7	221	2.0	+3
Ky-----	20	40	1,483	-92	37.1	380	.4	0
La-----	4	5	301	-250	60.2	188	.2	-.1
Maine-----	12	94	3,682	-76	39.2	72	5.1	0
Md-----	8	74	3,275	+110	44.3	174	1.9	+1
Mass-----	8	69	2,483	-172	36.0	74	3.4	-.2
Mich-----	72	1,424	49,095	+20	34.5	495	9.9	+9
Minn-----	81	2,258	63,577	-1,013	28.2	1,094	5.8	+2
Miss-----	5	5	492	+421	98.4	222	.2	+2
Mo-----	25	181	5,859	+1,694	32.4	397	1.5	+5
Mont-----	8	29	2,542	+866	87.7	49	5.2	+2.0
Nebr-----	20	86	3,200	+384	37.2	224	1.4	+2
Nev-----	2	2	1,145	+10	572.5	13.5	8.5	-.2
N. H-----	9	62	2,559	+349	41.3	42	6.1	+7
N. J-----	7	38	3,771	+1,918	99.2	86	4.4	+2.5
N. Mex-----	2	4	1,773	+160	443.3	38	4.7	+5
N. Y-----	49	2,558	94,798	-1,025	37.1	1,069	8.9	+3
N. C-----	15	38	1,529	+50	40.2	200	.8	+1
N. Dak-----	12	30	760	-60	25.3	173	.4	0
Ohio-----	81	1,372	41,418	+418	30.2	498	8.3	+5
Okla-----	25	57	2,996	+639	52.6	159	1.9	+5
Oreg-----	19	107	4,430	+830	41.4	117	3.8	+8
Pa-----	60	1,321	39,855	+547	30.2	742	5.4	+3
P. R-----	--	---	---	---	---	---	---	---
R. I-----	--	---	---	---	---	8.8	---	---
S. C-----	2	2	112	-84	56.0	75	.1	-.2
S. Dak-----	60	385	10,100	-1,500	26.2	210	4.8	-.6
Tenn-----	4	6	231	+5	38.5	348	.1	0
Tex-----	13	26	1,563	+447	60.1	384	.4	+1
Utah-----	3	27	1,040	+6	38.5	76	1.4	+1
Vt-----	13	611	26,693	-971	43.7	216	12.4	-.5
Va-----	14	58	2,385	+239	41.1	241	1.0	+1
Wash-----	11	39	1,208	+19	31.0	195	.6	0
W. Va-----	8	30	1,053	+246	35.1	73	1.4	+4
Wis-----	70	11,502	371,852	+22,305	32.3	1,933	19.2	+1.6
Wyo-----	3	18	714	-408	39.7	20.5	3.5	-1.6
Total, average, or percent---	993	25,143	847,485	+22,358	33.7	13,524	6.3	+5

1/ Preliminary figures for average number of milk cows on farms during year, excluding heifers not yet fresh; estimated by the Statistical Reporting Service (USDA).

2/ Percentage of cows included in the Owner-Sampler recordkeeping plan.

TABLE 4.--Weigh-a-Day-a-Month recordkeeping in the United States (January 1, 1968)

State	Counties	Herds	Cows	Change from 1-1-67	Av. cows per herd	All milk cows <u>1/</u>	WADAM cows as pct. of all milk cows <u>2/</u>	Change from 1-1-67
	<u>Number</u>	<u>Number</u>	<u>Number</u>	<u>Number</u>	<u>Number</u>	<u>Thousands</u>	<u>Percent</u>	<u>Percent</u>
Ala-----	8	13	931	-315	71.6	150	0.6	-.2
Alaska-----	--	--	---	---	---	1.9	---	---
Ariz-----	--	--	---	---	---	51	---	---
Ark-----	4	10	400	-100	40.0	108	.4	0
Calif-----	--	--	---	---	---	781	---	---
Colo-----	--	--	---	---	---	98	---	---
Conn-----	2	6	449	+449	74.8	69	.7	+.7
Del-----	1	3	56	+2	18.7	16	.4	+.1
Fla-----	8	16	4,318	-1,040	269.9	182	2.4	-.6
Ca-----	21	58	6,546	+1,708	112.9	144	4.5	+1.3
Hawaii-----	--	--	---	---	---	14.4	---	---
Idaho-----	--	--	---	---	---	156	---	---
Ill-----	39	209	6,941	-1,210	33.2	358	1.9	-.2
Ind-----	--	--	---	---	---	270	---	---
Iowa-----	2	3	45	+45	15.0	617	---	---
Kans-----	10	20	552	+252	27.6	221	.2	+.1
Ky-----	19	39	1,508	-575	38.7	380	.4	-.1
La-----	26	197	13,062	+232	66.3	188	6.9	+.4
Maine-----	--	--	---	-33	---	72	---	---
Md-----	--	--	---	---	---	174	---	---
Mass-----	--	--	---	---	---	74	---	---
Mich-----	--	--	---	---	---	495	---	---
Minn-----	--	--	---	---	---	1,094	---	---
Miss-----	8	22	1,327	-1,173	60.3	222	.6	-.4
Mo-----	--	--	---	---	---	397	---	---
Mont-----	--	--	---	---	---	49	---	---
Nebr-----	17	43	950	+4	22.1	224	.4	0
Nev-----	--	--	---	---	---	13.5	---	---
N. H-----	1	6	327	-41	54.5	42	.8	-.1
N. J-----	--	--	---	---	---	86	---	---
N. Mex-----	--	--	---	-1,404	---	38	---	-3.7
N. Y-----	--	--	---	---	---	1,069	---	---
N. C-----	28	57	2,943	-390	51.6	200	1.5	-.1
N. Dak-----	12	25	642	+69	25.7	173	.4	+.1
Ohio-----	--	--	---	---	---	498	---	---
Okla-----	2	2	70	-53	35.0	159	---	-.1
Oreg-----	--	--	---	---	---	117	---	---
Pa-----	--	--	---	---	---	742	---	---
P. R-----	6	18	3,534	-905	196.3	---	---	---
R. I-----	--	--	---	---	---	8.8	---	---
S. C-----	4	8	262	-402	32.8	75	.3	-.6
S. Dak-----	--	--	---	---	---	210	---	---
Tenn-----	20	35	1,314	+101	37.5	348	.4	+.1
Tex-----	4	8	796	+156	99.5	384	.2	0
Utah-----	--	--	---	---	---	76	---	---
Vt-----	1	1	50	+50	50.0	216	---	---
Va-----	6	12	496	+137	41.3	241	.2	+.1
Wash-----	--	--	---	---	---	195	---	---
W. Va-----	17	56	1,334	-140	23.8	73	1.8	-.1
Wis-----	--	--	---	---	---	1,933	---	---
Wyo-----	--	--	---	---	---	20.5	---	---
Total, average, or percent---	266	867	48,853	-4,576	56.3	13,524	.4	0

1/ Preliminary figures for average number of milk cows on farms during year, excluding heifers not yet fresh; estimated by the Statistical Reporting Service (USDA).

2/ Percentage of cows included in the Weigh-a-Day-a-Month recordkeeping plan.

TABLE 5.--Herds and cows enrolled in State and regional computing centers (January 1, 1968)

State	Standard DHIA (Incl. DHIR)				Dairy Herd Improvement Registry		Owner-Sampler		Total machine processing 1/		Machine-processing as percent of total recordkeeping 1/	
	Herds	Cows	Herds	Cows	Herds	Cows	Herds	Cows	Herds	Cows	Herds	Cows
	Number	Number	Pct. ^{2/}	Pct. ^{2/}	Number	Number	Number	Number	Number	Number	Pct.	Pct.
Ala-----	329	32,105	100.0	100.0	15	1,648	6	487	343	33,099	98.6	98.7
Alaska----	5	196	100.0	100.0	3	101	4	135	9	331	100.0	100.0
Ariz-----	47	8,090	60.3	56.6	17	2,960	--	---	47	8,090	48.0	38.0
Ark-----	81	4,375	100.0	100.0	11	475	99	3,160	180	7,535	94.7	95.0
Calif-----	296	76,900	16.1	20.7	101	21,619	3	1,884	299	78,784	15.0	20.4
Colo-----	231	19,269	100.0	100.0	34	2,218	31	1,522	262	20,791	100.0	100.0
Conn-----	389	22,677	100.0	100.0	72	4,674	58	2,609	453	25,735	100.0	100.0
Del-----	81	4,236	100.0	100.0	10	655	10	253	91	4,489	96.8	98.8
Fla-----	124	21,078	100.0	100.0	12	1,479	4	1,980	128	23,058	88.9	84.2
Ga-----	378	31,118	100.0	100.0	33	3,395	8	562	419	36,476	94.4	95.4
Hawaii----	15	4,035	88.2	93.4	--	----	2	645	17	4,680	89.5	94.2
Idaho-----	507	21,094	93.0	93.8	34	1,323	16	482	523	21,576	93.2	93.9
Ill-----	1,364	58,034	100.0	100.0	147	6,592	238	7,959	1,717	70,114	88.5	91.3
Ind-----	1,026	43,759	100.0	100.0	179	6,949	86	2,962	1,112	46,721	83.5	81.0
Iowa-----	1,687	60,756	100.0	100.0	223	8,041	1,257	33,159	2,944	93,915	96.2	96.6
Kans-----	792	38,162	100.0	100.0	126	5,142	135	4,416	927	42,578	97.9	98.7
Ky-----	524	23,497	100.0	100.0	47	1,880	40	1,483	603	26,488	100.0	100.0
La-----	82	7,778	95.3	93.1	12	1,113	5	301	284	21,141	98.6	97.3
Maine-----	394	18,782	100.0	100.0	60	3,215	94	3,682	488	22,464	100.0	100.0
Md-----	650	41,714	100.0	100.0	102	7,733	74	3,275	724	44,989	100.0	100.0
Mass-----	426	20,030	100.0	100.0	88	4,333	64	2,351	490	22,381	99.0	99.4
Mich-----	1,618	78,058	100.0	100.0	165	9,795	1,313	45,997	2,931	124,055	96.4	97.6
Minn-----	3,326	116,908	98.1	98.2	178	7,129	2,146	60,384	5,472	177,292	96.9	97.1
Miss-----	281	21,888	100.0	100.0	25	2,015	5	492	291	22,867	94.5	96.5
Mo-----	501	26,212	100.0	100.0	81	4,725	181	5,859	682	32,071	100.0	100.0
Mont-----	63	3,833	87.5	88.8	12	791	29	2,542	92	6,375	91.1	93.0
Nebr-----	394	18,729	99.5	99.6	52	2,819	86	3,200	480	21,929	91.4	95.6
Nev-----	36	4,095	58.1	64.2	10	820	2	1,145	38	5,240	59.4	69.6
N. H-----	256	13,014	100.0	100.0	55	2,766	62	2,559	324	15,900	100.0	100.0
N. J-----	393	23,992	100.0	100.0	58	3,767	38	3,771	431	27,763	100.0	100.0
N. Mex-----	31	6,916	100.0	100.0	11	2,622	1	109	32	7,025	91.4	80.8
N. Y-----	3,758	186,511	100.0	100.0	362	18,000	2,400	88,590	6,158	275,101	97.5	97.8
N. C-----	769	49,901	100.0	100.0	72	6,156	38	1,529	864	54,373	100.0	100.0
N. Dak-----	143	5,472	99.3	92.7	14	652	20	504	180	6,556	90.5	89.8
Ohio-----	2,117	90,978	100.0	100.0	395	17,696	463	14,473	2,580	105,451	73.9	79.6
Okla-----	271	17,010	100.0	100.0	51	2,981	57	2,996	328	20,006	99.4	99.7
Oreg-----	283	21,205	87.1	87.6	37	2,535	92	4,100	375	25,305	86.8	88.4
Pa-----	4,247	178,203	100.0	100.0	278	14,383	1,321	39,855	5,568	218,058	100.0	100.0
P. R-----	6	820	100.0	100.0	--	----	--	---	24	4,354	100.0	100.0
R. I-----	46	2,230	100.0	100.0	20	807	--	---	46	2,230	100.0	100.0
S. C-----	259	26,391	100.0	100.0	45	5,000	2	112	262	26,513	97.4	99.1
S. Dak-----	141	5,604	100.0	100.0	27	1,152	253	7,886	394	13,490	74.9	85.9
Tenn-----	503	31,011	100.0	100.0	58	3,884	6	231	517	31,589	95.0	97.0
Tex-----	341	32,296	99.1	99.4	73	7,135	26	1,563	373	34,455	98.7	98.9
Utah-----	408	21,107	100.0	100.0	25	1,428	27	1,040	435	22,147	100.0	100.0
Vt-----	734	39,121	100.0	100.0	104	5,674	213	8,399	948	47,570	70.4	72.2
Va-----	972	62,956	100.0	100.0	101	7,520	58	2,385	1,042	65,837	100.0	100.0
Wash-----	569	37,248	100.0	100.0	91	6,086	39	1,208	608	38,456	100.0	100.0
W. Va-----	157	8,367	100.0	100.0	17	1,158	30	1,053	187	9,420	77.0	87.6
Wis-----	3,010	131,243	100.0	100.0	500	22,540	9,708	312,826	12,718	444,069	87.6	88.3
Wyo-----	40	1,572	100.0	100.0	4	159	18	714	58	2,286	100.0	100.0
Total or percent	35,101	1,820,576	95.2	85.4	4,247	247,740	20,868	688,829	56,498	2,543,218	89.9	84.0

1/ Includes WADAM testing: Alabama, 8 herds, 507 cows; Connecticut, 6 herds, 449 cows; Georgia, 33 herds, 4,796 cows; Illinois, 115 herds, 4,121 cows; Kentucky, 39 herds, 1,508 cows; Louisiana, 197 herds, 13,062 cows; Mississippi, 5 herds, 487 cows; New Hampshire, 6 herds, 327 cows; North Carolina, 57 herds, 2,943 cows; North Dakota, 17 herds, 580 cows; Puerto Rico, 18 herds, 3,534 cows; South Carolina, 1 herd, 10 cows; Tennessee, 8 herds, 347 cows; Texas, 6 herds, 596 cows; Vermont, 1 herd, 50 cows; Virginia, 12 herds, 496 cows. Total = 529 herds, 33,813 cows.

2/ Percent of Standard DHIA and DHIR herds or cows enrolled in machine processing.

TABLE 6.--Status of Dairy Herd Improvement Association work in the United States (1906-1968, inclusive)

Year	Associa- tions 1/	Super- visors 1/	Herds	Cows	Standard Plan		Average production			
					Cows per herd	Herds reported	Cows reported	Milk	Milk fat	Milk fat
	Number	Number	Number	Number	Number	Number	Number	Pounds	Percent	Pounds
1906---	1	-----	31	239	7.7	-----	-----	5,300	4.06	215
1907---	4	-----	-----	1,606	-----	-----	-----	5,366	4.10	220
1908---	6	-----	-----	3,921	-----	-----	-----	-----	-----	---
1909---	25	-----	-----	11,921	-----	-----	-----	-----	-----	---
1910---	40	-----	-----	2/25,000	-----	-----	-----	2/5,730	3.96	2/227
1911---	64	-----	-----	2/40,000	-----	-----	-----	-----	-----	---
1912---	82	-----	-----	2/43,000	-----	-----	-----	-----	-----	---
1913---	100	-----	-----	47,150	-----	-----	-----	-----	-----	---
1914---	163	-----	-----	73,280	-----	-----	-----	-----	-----	---
1915---	211	-----	-----	105,526	-----	-----	-----	-----	-----	---
1916---	346	-----	-----	150,677	-----	-----	-----	-----	-----	---
1917---	459	-----	11,720	216,831	18.5	-----	-----	-----	-----	---
1918---	353	-----	9,778	172,518	17.6	-----	-----	-----	-----	---
1919---	385	-----	10,000	167,313	16.7	-----	-----	-----	-----	---
1920---	468	-----	11,948	203,472	17.0	-----	-----	6,175	4.00	247
1921---	452	-----	11,209	193,928	17.3	-----	-----	-----	-----	---
1922---	513	-----	12,508	215,321	17.2	-----	-----	-----	-----	---
1923---	627	-----	16,357	277,010	16.9	-----	-----	-----	-----	---
1924 3/	---	-----	-----	-----	-----	-----	-----	-----	-----	---
1925---	732	-----	18,677	307,073	16.4	-----	42,302	7,189	3.95	284
1926---	777	-----	19,540	327,653	16.8	-----	103,443	7,331	3.96	290
1927---	837	-----	21,128	362,014	17.1	-----	116,509	7,411	3.95	293
1928---	947	-----	23,327	414,891	17.8	-----	152,412	7,476	3.96	296
1929---	1,090	-----	26,182	465,804	17.8	-----	194,859	7,498	3.97	298
1930---	1,143	-----	27,888	507,549	18.2	-----	235,624	7,642	3.96	303
1931---	1,112	-----	26,308	510,714	19.4	-----	219,924	7,812	3.92	306
1932---	1,005	-----	20,351	427,044	21.0	-----	186,683	7,858	3.95	310
1933---	881	-----	15,447	358,501	23.2	-----	163,014	7,849	3.99	313
1934---	793	-----	13,694	325,837	23.8	-----	203,930	8,015	4.02	322
1935---	809	-----	15,573	364,218	23.4	-----	200,367	7,977	4.04	322
1936---	876	-----	17,344	404,412	23.3	-----	257,248	7,912	4.03	319
1937---	992	-----	20,772	496,562	23.9	-----	354,568	7,923	4.04	320
1938---	1,106	-----	23,701	558,993	23.6	-----	448,025	7,831	4.05	317
1939---	1,228	-----	25,949	625,284	24.1	-----	507,563	7,977	4.05	323
1940---	1,300	-----	27,948	676,141	24.2	-----	545,382	8,133	4.07	331
1941---	1,383	-----	31,381	763,502	24.3	-----	591,103	8,225	4.07	335
1942---	1,421	-----	32,957	816,111	24.8	-----	514,758	8,323	4.07	339
1943---	1,057	-----	24,155	616,972	25.5	-----	375,914	8,325	4.06	338
1944---	954	-----	20,825	561,587	27.0	-----	383,337	8,296	4.05	336
1945---	949	-----	21,254	577,200	27.2	-----	384,360	8,592	4.03	346
1946---	1,124	-----	23,331	627,878	27.0	-----	413,554	8,635	4.04	349
1947---	1,426	-----	28,812	775,546	26.9	-----	533,061	8,638	4.03	348
1948---	1,668	-----	33,274	886,129	26.6	-----	620,385	8,675	4.03	350
1949---	1,787	-----	35,851	943,939	26.3	-----	729,150	8,907	4.03	359
1950---	1,973	-----	40,100	1,088,872	27.2	-----	836,922	9,172	4.03	370
1951---	2,143	-----	42,949	1,186,615	27.6	-----	885,859	9,195	4.02	370
1952---	2,109	-----	40,105	1,166,297	29.1	-----	928,376	9,192	3.98	366
1953---	2,151	-----	40,983	1,226,588	29.9	-----	1,020,326	9,253	3.98	368
1954---	2,175	-----	41,254	1,311,698	31.8	-----	1,079,557	9,363	3.97	372
1955---	2,288	-----	41,240	1,333,866	32.3	-----	1,175,378	9,502	3.95	375
1956---	2,266	-----	40,984	1,406,306	34.4	-----	1,229,971	9,713	3.94	383
1957 4/	1,700	2,310	41,638	1,479,799	35.5	-----	1,256,129	9,894	3.93	389
1958---	1,544	2,293	39,985	1,548,884	38.7	-----	1,345,750	10,068	3.91	394
1959---	1,500	2,337	40,284	1,607,538	39.9	-----	1,406,665	10,327	3.88	401
1960---	1,509	2,397	41,293	1,746,752	42.3	-----	5/1,343,725	5/10,561	3.87	5/409
1961---	1,395	2,448	42,558	1,867,469	43.9	28,649	1,280,785	10,796	3.87	418
1962---	1,436	2,472	42,034	1,958,355	46.6	32,794	1,531,826	11,032	3.86	426
1963---	1,441	2,516	41,937	2,006,534	47.8	35,378	1,674,803	11,286	3.85	434
1964---	1,420	2,474	40,670	2,010,144	49.4	35,689	1,746,475	11,685	3.83	447
1965---	1,424	2,439	40,075	2,087,581	52.1	35,604	1,821,252	11,976	3.82	457
1966---	1,418	2,378	38,879	2,058,592	52.9	34,886	1,852,533	12,127	3.81	462
1967---	1,344	2,319	37,683	2,098,919	55.7	34,515	1,890,024	12,307	3.80	468
1968---	1,318	2,304	36,869	2,131,929	57.8	-----	-----	-----	-----	---

1/ Number of associations and supervisors include all plans.

2/ Estimated.

3/ Date for collecting data changed in 1924 from July 1 to January 1.

4/ Prior to 1957 associations were counted on the basis of supervisor circuits.

5/ National testing year changed in 1960 to begin May 1. These values are averages of 1959 and 1961.

TABLE 9.--Counties, by State, with 40 percent or more cows included in the National Cooperative Dairy Herd Improvement Program--January 1, 1968--Continued

State and county	Cows enrolled in DHIA plans	State and county	Cows enrolled in DHIA plans	State and county	Cows enrolled in DHIA plans
	Percent		Percent		Percent
KANSAS (contd.)		NEW YORK (contd.)		SOUTH CAROLINA (contd.)	
Pawnee-----	40	Tompkins-----	44	Barnwell-----	42
(20%)		Ontario-----	43	Darlington-----	42
LOUISIANA		(44%)		Marlboro-----	40
Richland-----	61	NORTH CAROLINA		(46%)	
Acadia-----	58	Carteret-----	100	TENNESSEE	
Morehouse-----	58	Perquimans-----	92	Dyer-----	98
West Carroll-----	48	Lenoir-----	91	Gibson-----	41
(20%)		New Hanover-----	81	(4%)	
MAINE		Brunswick-----	72	TEXAS	
Oxford-----	53	Wake-----	68	Deaf Smith-----	75
Androscoggin-----	47	Orange-----	65	Goliad-----	75
Cumberland-----	41	Beaufort-----	63	Hutchinson-----	75
(44%)		Durham-----	59	San Patricio-----	75
MARYLAND		Hyde-----	58	Starr-----	75
(33%)		Craven-----	57	Milam-----	65
MASSACHUSETTS		Onslow-----	54	Willacy-----	63
Hampshire-----	44	Pitt-----	54	Burleson-----	62
Berkshire-----	42	Jones-----	51	Scurry-----	45
(50%)		Columbus-----	50	(7%)	
MICHIGAN		Bladen-----	48	UTAH	
Ingham-----	46	Pender-----	46	Wasatch-----	57
Jackson-----	46	Cumberland-----	45	Salt Lake-----	55
Lenawee-----	43	Washington-----	45	Summit-----	46
Barry-----	42	Guilford-----	43	Washington-----	43
Calhoun-----	42	Chatham-----	42	(45%)	
Kalamazoo-----	42	(49%)		VERMONT	
(35%)		OHIO		Washington-----	47
MINNESOTA		Clark-----	58	Windsor-----	46
(10%)		Marion-----	52	Bennington-----	45
MISSOURI		Fulton-----	43	Addison-----	41
(1%)		Erie-----	42	(86%)	
MONTANA		Hamilton-----	42	VIRGINIA	
(2%)		Pickaway-----	42	James City-----	98
NEBRASKA		Wayne-----	42	City of Newport News-----	73
(6%)		(44%)		Northampton-----	70
NEVADA		OKLAHOMA		Lancaster-----	62
Clark-----	100	(10%)		City of Chesapeake-----	57
Churchill-----	48	OREGON		City of Virginia Beach-----	56
Lincoln-----	40	Lane-----	44	Henrico-----	56
(24%)		Josephine-----	41	Isle of Wight-----	55
NEW HAMPSHIRE		(22%)		Culpeper-----	53
Sullivan-----	57	PENNSYLVANIA		Orange-----	50
Merrimack-----	46	Montgomery-----	55	Prince George-----	50
Grafton-----	40	Blair-----	48	Roanoke-----	50
Hillsborough-----	40	Huntingdon-----	44	Nansemond-----	48
(90%)		Lancaster-----	41	Hanover-----	47
NEW JERSEY		Union-----	40	Madison-----	46
Middlesex-----	63	(61%)		Pulaski-----	45
Burlington-----	43	RHODE ISLAND		Charlotte-----	42
(38%)		(40%)		Clarke-----	42
NEW MEXICO		SOUTH CAROLINA		Loudoun-----	42
Dona Ana-----	72	Kershaw-----	80	Rockingham-----	42
Sierra-----	63	Allendale-----	73	Amelia-----	41
(13%)		Sumter-----	73	Powhatan-----	41
NEW YORK		Bamberg-----	68	Nottoway-----	40
Dutchess-----	49	Jasper-----	63	Prince William-----	40
Columbia-----	48	Orangeburg-----	59	Southampton-----	40
Long Island-----	44	Hampton-----	56	(43%)	
		Newberry-----	56	WASHINGTON	
		Colleton-----	50	Asotin-----	41
		Saluda-----	50	Klickitat-----	41
		Beaufort-----	47	(36%)	
		Calhoun-----	45	WEST VIRGINIA	
		Lee-----	44	(4%)	
		Laurens-----	43	WISCONSIN	
				Kenosha-----	51
				Winnebago-----	44
				(36%)	

TABLE 10.--Lactation records received in 1967 ^{1/}

State	DHIA cows on test 1-1-67	1967 production records				1966 production records	
		Punched (1095 cards)	Magnetic tape	Total	Proportion of cows enrolled in DHIA	Total	Proportion of cows enrolled in DHIA
	Number	Number	Number	Number	Percent ^{2/}	Number	Percent ^{2/}
Ala-----	30,821	6,626	23,490	30,116	97.7	25,955	89.8
Alaska-----	165	-----	208	208	126.1	188	95.9
Ariz-----	16,544	5,645	-----	5,645	34.1	4,745	29.7
Ark-----	3,800	6	4,461	4,467	117.6	3,555	103.4
Calif-----	362,452	75,359	-----	75,359	20.8	74,120	21.4
Colo-----	14,253	8,008	-----	8,008	56.2	8,011	51.6
Conn-----	22,678	-----	23,460	23,460	103.4	27,340	120.6
Del-----	4,461	-----	4,407	4,407	98.8	6,058	127.7
Fla-----	20,089	5,189	15,474	20,663	102.9	17,246	90.7
Ga-----	31,116	6,830	28,527	35,357	113.6	27,003	91.4
Hawaii-----	4,480	-----	3,215	3,215	71.8	873	38.0
Idaho-----	30,715	1,431	25,839	27,270	88.8	20,641	82.6
Ill-----	61,352	60,275	-----	60,275	98.2	57,865	94.7
Ind-----	43,142	5	47,193	47,198	109.4	45,232	97.8
Iowa-----	59,470	81	69,282	69,363	116.6	62,715	105.2
Kans-----	35,328	58	42,150	42,208	119.5	36,141	107.1
Ky-----	22,048	5,508	17,528	23,036	104.5	20,120	91.5
La-----	7,484	1,297	5,531	6,828	91.2	4,718	79.6
Maine-----	17,853	-----	18,866	18,866	105.7	22,970	126.9
Md-----	40,122	42,913	-----	42,913	107.0	41,405	92.2
Mass-----	21,164	-----	21,441	21,441	101.3	26,671	128.4
Mich-----	81,341	80,196	-----	80,196	98.6	79,607	93.4
Minn-----	122,241	130,027	-----	130,027	106.4	119,501	96.3
Miss-----	18,698	4,267	14,356	18,623	99.6	15,068	87.4
Mo-----	24,011	43	26,795	26,838	111.8	21,835	112.1
Mont-----	3,378	2,487	-----	2,487	73.6	2,182	62.6
Nebr-----	16,696	24	18,505	18,529	111.0	15,515	100.2
Nev-----	6,446	1,744	-----	1,744	27.1	2,402	58.2
N. H-----	12,332	-----	13,006	13,006	105.5	16,172	128.2
N. J-----	25,235	-----	25,315	25,315	100.3	33,536	132.7
N. Mex-----	6,244	5,810	-----	5,810	93.0	3,455	91.1
N. Y-----	181,758	-----	186,679	186,679	102.7	240,593	133.8
N. C-----	47,669	11,421	38,875	50,296	105.5	43,628	93.8
N. Dak-----	6,100	14	6,060	6,074	99.6	5,938	107.4
Ohio-----	90,856	5	96,770	96,775	106.5	95,348	101.3
Oklahoma-----	14,163	19	16,344	16,363	115.5	12,615	98.0
Oreg-----	26,300	-----	24,048	24,048	91.4	17,720	68.4
Pa-----	179,732	-----	167,820	167,820	93.4	169,514	96.6
P. R-----	893	-----	-----	-----	-----	-----	-----
R. I-----	2,192	-----	2,115	2,115	96.5	2,963	121.2
S. C-----	24,880	5,354	19,283	24,637	99.0	21,235	94.9
S. Dak-----	6,650	8	6,983	6,991	105.1	6,806	100.9
Tenn-----	30,429	7,071	24,424	31,495	103.5	26,136	91.2
Tex-----	29,050	7,462	22,367	29,829	102.7	24,810	88.2
Utah-----	20,318	18,704	-----	18,704	92.1	20,059	95.6
Vt-----	39,064	61	38,690	38,751	99.2	48,559	103.3
Va-----	59,065	14,411	49,124	63,535	107.6	60,544	105.0
Wash-----	37,060	-----	43,275	43,275	116.8	30,130	114.4
W. Va-----	8,791	-----	8,500	8,500	96.7	8,764	132.5
Wis ^{3/} -----	126,362	-----	142,274	142,274	112.6	110,457	85.7
Wyo-----	1,428	235	-----	235	16.5	310	27.3
U.S-----	2,098,919	508,594	1,342,680	1,851,274	88.2	1,788,974	86.9

^{1/} Lactation record input for May and September 1967, and January 1968 production runs.

^{2/} Percentages vary by State and may exceed 100 percent depending upon reporting and processing procedures in December and January of each year and year to year changes in reporting procedures.

^{3/} Does not include approximately 200,000 records for previous years that were resubmitted.

TABLE 11.--Ten-year summary: Lactation records received by USDA

Year	Standard DHIA cows enrolled on January 1 of each year	Lactation records reported to USDA	Standard DHIA cows represented by records reported
	<u>Number</u>	<u>Number</u>	<u>Percent</u>
1958 - - -	1,548,884	786,496	51
1959 - - -	1,607,538	927,998	58
1960 - - -	1,746,752	886,495	51
1961 - - -	1,867,469	1,084,799	58
1962 - - -	1,958,355	1,211,407	62
1963 - - -	2,006,534	1,320,423	66
1964 - - -	2,010,144	1,437,959	72
1965 - - -	2,087,581	1,749,752	84
1966 - - -	2,058,592	1,788,974	87
1967 - - -	2,098,919	1,851,274	88

TABLE 12.--Relative frequency of error conditions in lactation records rejected in preliminary edits ^{1/}

Error conditions	Total error conditions	Percent of all error conditions
<u>Registered cows</u>		
Zero dam number -----	2,733	19.39
Zero sire number -----	2,498	17.73
Cow and dam breed unequal -----	1,044	7.41
Eartag sire number -----	803	5.70
Cow and sire breed unequal -----	798	5.66
Alpha sire number -----	484	3.43
Zero cow number -----	394	2.80
Blank cow breed -----	393	2.79
Alpha dam number -----	359	2.55
Alpha cow number -----	340	2.41
"Eight" cow breed -----	206	1.46
Zero cow breed -----	41	.29
<u>Grade cows</u>		
"Non eight" eartag cow breed, unequal sire breed -----	356	2.53
Eartag cow breed "eight", "non eight" sire and dam equal --	55	.39
<u>Registered or grade cows</u>		
Blanks in any position of record -----	1,844	13.08
Zero sire breed -----	753	5.34
Alpha in hi-order 2 positions of cow number -----	389	2.76
Zero dam breed -----	252	1.79
Zero days in milk -----	222	1.58
Alpha in hi-order 2 positions of dam number -----	73	.52
Alpha in hi-order 2 positions of sire number -----	48	.34
Blank days in milk -----	6	.04
Alpha "J" through "Z" in "Termination" code -----	2	.01
Total -----	14,093	100.00

^{1/} Total lactation records in error = 10,259. Proportion of error conditions in the 1,871,591 lactation records processed is 0.75 percent.

TABLE 13.--Relative frequency of Standard DHIA lactation record rejects in 1967, by reason for rejection

Reject code	Type of error	Total error conditions	Percent of all rejects	Percent of all records entered <u>1/</u>
B-----	Conflicting or questionable birth date -----	28,120	22.4	1.5
A-----	Conflict with previous information supplied-----	24,147	19.3	1.3
I-----	Invalid characters - usually blanks or alphabets	20,073	16.0	1.1
F-----	Conflicting or questionable calving date-----	13,471	10.7	0.7
S-----	Conflicting or questionable sire number-----	12,848	10.2	.7
D-----	Conflicting or questionable dam number-----	7,197	5.7	.4
C-----	Conflicting or questionable cow number-----	3,699	2.9	.2
J-----	Equal identification number for two or more of the animals in the pedigree -----	707	0.6	(<u>2/</u>)
E-----	Conflicting or questionable breed code-----	552	.4	(<u>2/</u>)
G-----	Invalid State code-----	162	.1	(<u>2/</u>)
M-----	Conflicting or questionable milk, pounds-----	147	.1	(<u>2/</u>)
O-----	Conflicting or questionable fat, pounds-----	94	.1	(<u>2/</u>)
P-----	Conflicting or questionable percent fat-----	85	.1	(<u>2/</u>)
N-----	Conflicting or questionable days in milk-----	5	(<u>2/</u>)	(<u>2/</u>)
L-----	Days milked 3X exceed days in milk-----	2	(<u>2/</u>)	(<u>2/</u>)
Pre-edit rejects <u>3/</u> -----		14,093	11.2	.8
Total -----		<u>4/</u> 125,402	100.0	6.7

1/ The 1,851,274 incoming records plus 20,317 records re-entered after correction = 1,871,591.

2/ Less than 0.05 percent.

3/ For breakdown of pre-edit rejects, see table 12.

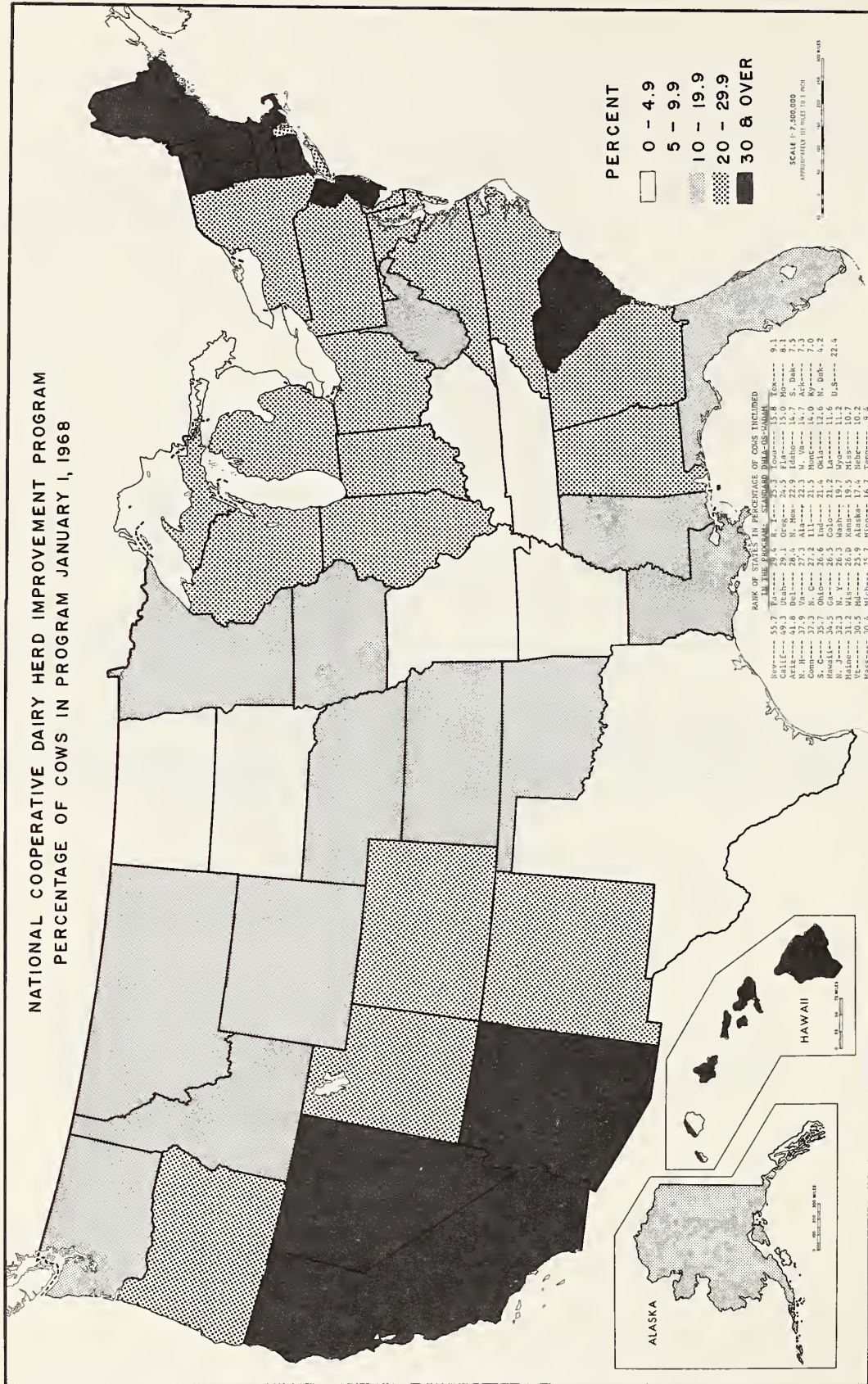
4/ A total of 118,044 records were rejected, but the higher number of error conditions indicate some records contained more than one wrong, questionable, or conflicting data item.

TABLE 14.-Bulls summarized in 1967

Breed	April	May	September	Total
	<u>Number</u>	<u>Number</u>	<u>Number</u>	<u>Number</u>
Ayrshire-----	1,292	39	142	1,473
Guernsey-----	6,798	250	1,362	8,410
Holstein-----	17,448	825	2,394	20,667
Jersey-----	4,722	227	779	5,728
Brown Swiss-----	1,055	74	240	1,369
M. Shorthorn-----	335	24	66	425
Red Dane-----	18	4	7	29
Red Poll-----	2	---	-----	2
Total sires summarized-	31,670	1,443	4,990	38,103

TABLE 15.-Screening levels and cows qualifying for the DHIA Cow Performance Index List by breed

Breed	Minimum qualification standards			Number of cows qualifying
	A		B	
	Milk index	Milk index	Fat index	
	<u>Pound</u>	<u>Pound</u>	<u>Pound</u>	<u>Number</u>
Ayrshire-----	1,089	814	39	253
Guernsey-----	724	544	19	588
Holstein-----	734	579	14	5,548
Jersey-----	559	359	19	559
Brown Swiss-----	717	506	19	169
M. Shorthorn----	349	199	9	94



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